Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Withdrawn)** A testing system for electronic devices, said testing system comprising:

an interface configured to receive a device under test ("DUT");

test equipment, coupled to said interface, said test equipment being configured to test functional characteristics of said DUT; and

an active temperature control device for regulating the temperature of said DUT, said active temperature control device comprising:

a thermal transfer surface configured to establish a thermal path between said active temperature control device and said DUT;

a heater configured to heat said thermal transfer surface; and

a fluid-cooled heat sink coupled to said heater, said fluid-cooled heat sink being configured to maintain a counter-flow of coolant relative to said thermal transfer surface.

2. **(Withdrawn)** A testing system according to claim 1, further comprising a coolant flow control system coupled to said active temperature control device, said coolant flow control system being configured to regulate the flow rate of coolant through said fluid-cooled heat sink.

3. **(Withdrawn)** A testing system according to claim 2, wherein:

the temperature of said heater is controlled by a heater control signal; and

said coolant flow control system controls said flow rate of coolant in cooperation with said heater control signal.

4. **(Withdrawn)** A testing system according to claim 2, wherein:

said interface provides a number of DUT control signals to said DUT; and

said coolant flow control system controls said flow rate of coolant in cooperation with at least one of said DUT control signals.

5. **(Withdrawn)** A testing system according to claim 4, wherein said at least one of said DUT control signals includes a power signal.

6. **(Original)** A testing system for electronic devices, said testing system comprising:

a plurality of active temperature control devices for regulating the temperature of at least one device under test ("DUT"), each of said active temperature control devices comprising:

a thermal transfer surface configured to establish a thermal path to a respective DUT; and

a fluid-cooled heat sink thermally coupled to said thermal transfer surface, said fluid-cooled heat sink being configured to maintain a flow of coolant proximate said thermal transfer surface; and

a coolant flow control system coupled to said active temperature control devices, said coolant flow control system being configured to individually regulate the flow rate of coolant through each fluid-cooled heat sink.

7. **(Original)** A testing system according to claim 6, wherein said coolant flow control system adjusts the flow rate of coolant to vary the temperature of DUTs for testing under different conditions.

8. **(Original)** A testing system according to claim 6, wherein said coolant flow control system adjusts the flow rate of coolant to achieve a test temperature for DUTs before testing.

9. **(Original)** A testing system according to claim 6, wherein said coolant flow control system adjusts the flow rate of coolant to achieve an ambient temperature for DUTs after testing.

10. **(Original)** A testing system according to claim 6, wherein each of said active temperature control devices further comprises a heater configured to heat the respective thermal transfer surface.

11. **(Original)** A testing system according to claim 10, wherein for each of said active temperature control devices:

the temperature of said heater is controlled by a respective heater control signal; and

said coolant flow control system controls the respective flow rate of coolant in cooperation with said respective heater control signal.

12. **(Withdrawn)** A method for testing functional characteristics of a plurality of electronic devices, said method comprising:

thermally coupling a plurality of active temperature control devices to a plurality of devices under test ("DUTs") or during burn-in, each of said active temperature control devices comprising a fluid-cooled heat sink for cooling the respective DUT; and

individually regulating the flow rate of coolant through each fluid-cooled heat sink in response to temperature settings for said plurality of DUTs.

13. **(Withdrawn)** A method according to claim 12, wherein:

each of said active temperature control devices further comprises a heater configured to heat the respective DUT; and

said method further comprises individually regulating the temperature of each heater in response to temperature settings for said plurality of DUTs.

14. **(Withdrawn)** A method according to claim 12, wherein the flow rate of coolant is regulated to vary the temperature of DUTs for testing under different conditions.

15. **(Withdrawn)** A method according to claim 12, wherein the flow rate of coolant is regulated to achieve a test temperature for DUTs before testing.

16. **(Withdrawn)** A method according to claim 12, wherein the flow rate of coolant is regulated to achieve an ambient temperature for DUTs after testing.

17. **(Withdrawn)** An active temperature control device for the testing of electronic devices, said active temperature control device comprising:

a thermal transfer element configured to establish a thermal path to a device under test ("DUT");

a heater configured to heat said thermal transfer element; and

a fluid-cooled heat sink coupled to said heater, said fluid-cooled heat sink being configured to maintain a counter-flow of coolant across said thermal transfer element.

18. **(Withdrawn)** An active temperature control device according to claim 17, wherein said heater is located between said thermal transfer element and said fluid-cooled heat sink.

19. **(Withdrawn)** An active temperature control device for the testing of electronic devices, said active temperature control device comprising:

a body having a first side and second side;

a first cooling passage with a plurality of first fluid flow channels on said second side, each of said plurality of first fluid flow channels having a fluid entry and a fluid exit on said first side;

a second cooling passage with a plurality of second fluid flow channels on said second side, each of said plurality of second fluid flow channels having a fluid flow channels having a fluid entry and a fluid exit on said second side; and

a thermal transfer element configured to establish a thermal path between said first side and device under test ("DUT").

20. (Withdrawn) An active temperature control device according to claim 19, further comprising a cover attached to said second side for sealing said plurality of first fluid flow channels and said second fluid flow channels.

21. (Withdrawn) An active temperature control device according to claim 20, wherein said cover includes:

a first inlet and a first outlet, each in fluid communication with said first cooling passage; and

a second inlet and a second outlet, each in fluid communication with said second cooling passage.

22. (Withdrawn) An active temperature control device according to claim 19, further comprising one or more caps attached to said first side for sealing said fluid entry on said first side and for sealing said fluid exit on said first side.

23. (Withdrawn) An active temperature control device according to claim 19, further comprising a coolant control system configured to heat said thermal transfer element.

24. (Withdrawn) An active temperature control device according to claim 23, wherein said heater is located between said thermal transfer element and said body.

25. (Withdrawn) An active temperature control device according to claim 19, wherein fluid flows through said plurality of first flow channels in a first direction, and fluid flows through said plurality of second flow channels in a second direction.

26. (Withdrawn) An active temperature control device according to claim 25, wherein said first direction is opposite to said second direction.

27. (Previously Presented) A testing system according to claim 6, wherein said fluid-cooled heat sink is configured to maintain a counter-flow of coolant relative to said thermal transfer surface.

28. (Previously Presented) A testing system according to claim 6, wherein said fluid-cooled heat sink has a monolithic design.

29. (Previously Presented) A testing system according to claim 6, wherein said fluid-cooled heat sink comprises two cooling passages, wherein each cooling passage has an inlet, an outlet and a heat transfer portion that, when combined, creates a continuous fluid conduit through the device.

30. (Previously Presented) A testing system according to claim 29, wherein said two cooling passages maintain a counter-flow of coolant through the heat sink and relative to the thermal transfer surface of the device.